1.	Net area of Building	123,000 sq. ft.
2.	Site, Design, Engineering, Supervision, etc.	$ 685,000
3.	Estimated Improvement Cost	$3,693,000
4.	Annual Rental of Space Comparable to New Building	$ 500,000
5.	Estimated Number of Personnel to be Housed	348
6.	Economically Useful Life of Building	50 yrs.

II. Cost Inclusions

A. Construction

1. Site, Design, Engineering, etc. $ 685,000 685,000

There is no discounting involved in this cost and consequently, the estimated cost is used. In the event that the site is expected to be acquired by exchange or use of a Government-owned site, the fair market value of the site should be used.

2. Improvement

Again no discounting is involved and the present value is the estimated cost.

3. Maintenance and Operation $3,475,938

This total annual cost is computed by multiplying $1.43 x net area of the building (123,000 sq. ft.). This yields $175,890 which when multiplied by Figure I in Exhibit A (19.7620) will equal $3,475,938 present value of a stream of $175,890 payments in each of 50 years (economically useful life of building).

4. Repairs and Improvements $ 784,380

This cost is assumed to escalate over the economically useful life of the building in the following manner:

Range of Years	Cost per sq. ft.
1 - 10	$ .10
11 - 20	.30

4. Repairs and Improvements (Cont'd)

Range of Years	Cost per sq. ft.
21-40	$ .50
41-50	1.00

The present value factor to be used for years 1 to 10 is Figure II in Exhibit A. To obtain the factor for the second period (years 10-20) Figure III must be reduced by Figure II yielding 5.0952. Similarly, the third period is obtained by subtracting Figure III from Figure IV yielding 5.3936. The fourth period is derived by subtracting Figure IV from Figure I yielding 1.3604. Therefore, the present value of the cost per sq. ft. is arrived at by multiplying these factors by the unit cost:

7.9127 X .10	=	.79127		
5.0952 X .30	=	1.52856		
5.3936 X .50	=	2.69682		
1.3604 X 1.00	=	1.63248	1.36042	
		6.64913	6.37707	

The sum of these unit costs when multiplied by the net sq. ft. will yield the present value of the stream of R&I costs for the 50-year period. This factor then (6.377) can be used when the economically useful life is 50 years, the R&I costs are scheduled as above and the discount rate used is 4 1/2%.

5. Impacted Area Payment $ 196,474

These payments are used to compute the cost to the Federal Government in compensating the local community for taxes foregone as a result of Government ownership. These payments are estimated as being equal to $200 per child, with an average of one child per 7 employees or $28.57 per employee. Number of Employees X Unit Payment X Present value factor for a 50-year stream of equal payments (Fig. I).

348 X 28.57 X 19.7620

TOTAL $8,834,792

B. Leasing

Only one cost is pertinent for the leasing alternative, i.e., the annual comparable rental on a fully serviced basis. To determine the present value of a stream of equal payments over 50 years multiply Fig. I X the annual rental ($500,000). Therefore, in this case it is shown that the construction alternative is 1,046,000 present-value dollars cheaper then the leasing alternative.

TOTAL $9,881,000

III. The difference between the cost of leasing and the cost of construction divided by the net assignable square feet in the project will produce a number which can be compared with other numbers to determine the relative cost advantage of one project over another project.

KING FUND *riodic deposit will grow to $1 f future date.*	PRESENT WORTH OF 1 *What $1 due in the future is worth today.*	PRESENT WORTH OF 1 PER PERIOD *What $1 payable periodically is worth today.*	PARTIAL PAYMENT *Annuity worth $1 today.* *Periodic payment necessary to pay off a loan of $1.*	PERIODS
000 000 0000	.956 937 7990	.956 937 7990	1.045 000 0000	1
488 997 5550	.915 729 9512	1.872 667 7503	.533 997 5550	2
118 773 3601	.876 296 6041	2.748 964 3545	.363 773 3601	3
333 743 6479	.838 561 3436	3.587 525 6979	.278 743 6479	4
.82 791 6395	.802 451 0468	4.389 976 7444	.227 791 6395	5
.48 878 3875	.767 895 7383	5.157 872 4827	.193 878 3875	6
.24 701 4680	.734 828 4577	5.892 700 9404	.169 701 4680	7
.06 609 6533	.703 185 1270	6.595 886 0674	.151 609 6533	8
92 574 4700	.672 904 4277	7.268 790 4951	.137 574 4700	9
.81 378 8217	.643 927 6820	7.912 718 1771	.126 378 8217	10
172 248 1817	.616 198 7388	8.528 916 9159	.117 248 1817	11
164 666 1886	.589 663 8649	9.118 580 7808	.109 666 1886	12
158 275 3528	.564 271 6410	9.682 852 4218	.103 275 3528	13
152 820 3160	.539 972 8622	10.222 825 2840	.097 820 3160	14
148 113 8081	.516 720 4423	10.739 545 7263	.093 113 8081	15
144 015 3694	.494 469 3228	11.234 015 0491	.089 015 3694	16
140 417 5833	.473 176 3854	11.707 191 4346	.085 417 5833	17
137 236 8975	.452 800 3686	12.159 991 8034	.082 236 8975	18
134 407 3443	.433 301 7884	12.593 293 5918	.079 407 3443	19
131 876 1443	.414 642 8597	13.007 936 4515	.076 876 1443	20
129 600 5669	.396 787 4255	13.404 723 8770	.074 600 5669	21
127 545 6461	.379 700 8857	13.784 424 7627	.072 545 6461	22
125 682 4930	.363 350 1298	14.147 774 8925	.070 682 4930	23
123 987 0299	.347 703 4735	14.495 478 3660	.068 987 0299	24
122 439 0280	.332 730 6967	14.828 208 9627	.067 439 0280	25
121 021 3674	.318 402 4849	15.146 611 4476	.066 021 3674	26
119 719 4616	.304 691 5731	15.451 302 8206	.064 719 4616	27
118 520 8051	.291 570 6919	15.742 873 5126	.063 520 8051	28
117 414 6147	.279 015 0162	16.021 888 5288	.062 414 6147	29
116 391 5429	.267 000 0155	16.288 888 5443	.061 391 5429	30
115 443 4459	.255 502 4072	16.544 390 9515	.060 443 4459	31
114 563 1962	.244 499 9112	16.788 890 8627	.059 563 1962	32
113 744 5281	.233 971 2069	17.022 862 0695	.058 744 5281	33
112 981 9119	.223 895 8917	17.246 757 9613	.057 981 9119	34
112 270 4478	.214 254 4419	17.461 012 4031	.057 270 4478	35
111 605 7796	.205 028 1740	17.666 040 5772	.056 605 7796	36
110 984 0206	.196 199 2096	17.862 239 7868	.055 984 0206	37
110 401 6920	.187 750 4398	18.049 990 2266	.055 401 6920	38
109 855 6712	.179 665 4926	18.229 655 7192	.054 855 6712	39
109 343 1466	.171 928 7011	18.401 584 4203	.054 343 1466	40
108 861 5804	.164 525 0728	18.566 109 4931	.053 861 5804	41
108 408 6759	.157 440 2611	18.723 549 7542	.053 408 6759	42
107 982 3492	.150 660 5369	18.874 210 2911	.052 982 3492	43
107 580 7056	.144 172 7626	19.018 383 0536	.052 580 7056	44
107 202 0184	.137 964 3661	19.156 347 4198	.052 202 0184	45
106 844 7107	.132 023 3169	19.288 370 7366	.051 844 7107	46
106 507 3395	.126 338 1023	19.414 708 8389	.051 507 3395	47
106 188 5821	.120 897 7055	19.535 606 5444	.051 188 5821	48
105 887 2235	.115 691 5842	19.651 298 1286	.050 887 2235	49
105 602 1459	.110 709 6500	19.762 007 7785	.050 602 1459	50
105 332 3191	.105 942 2488	19.867 950 0273	.050 332 3191	51
105 076 7923	.101 380 1424	19.969 330 1697	.050 076 7923	52
104 834 6867	.097 014 4903	20.066 344 6600	.049 834 6867	53
104 605 1886	.092 836 8328	20.159 181 4928	.049 605 1886	54
104 387 5437	.088 839 0745	20.248 020 5673	.049 387 5437	55
104 181 0518	.085 013 4684	20.333 034 0357	.049 181 0518	56
103 985 0622	.081 352 6013	20.414 386 6370	.048 985 0622	57
103 798 9695	.077 849 3793	20.492 236 0163	.048 798 9695	58
103 622 2094	.074 497 0137	20.566 733 0299	.048 622 2094	59
103 454 2558	.071 289 0083	20.638 022 0382	.048 454 2558	60
$\frac{i}{(1+i)^n-1}$	$v^n=\frac{1}{(1+i)^n}$	$a_{\overline{n}|}=\frac{1-v^n}{i}$	$\frac{1}{a_{\overline{n}|}}=\frac{i}{1-v^n}$	n

RATE

4½%

.045

per period

Fig 2

Fig 3

ANNUALLY

If compounded annually nominal annual rate is

4½%

SEMIANNUALLY

If compounded semiannually nominal annual rate is

9%

Fig 4.

QUARTERLY

If compounded quarterly nominal annual rate is

18%

Fig. 1

MONTHLY

If compounded monthly nominal annual rate is

54%

i = .045
$i_{(4)}$ = .09
$i_{(2)}$ = .18
$i_{(12)}$ = .54